REMARKS

By this After Final Amendment, Applicant has amended Claims 1-3, 7-8, 23, 29, 32, 38, and 43. No new matter has been added. Claims 1-17 and 23-43 are currently pending in the application. Favorable reconsideration is respectfully requested in light of the following Remarks.

Entry of this Amendment is proper under 37 CFR §1.116 because this Amendment: (a) places the application in condition for allowance (for the reasons discussed herein); (b) does not raise any new issue requiring further search and/or consideration because the amendments amplify issues previously discussed throughout prosecution; (c) does not add claims without deleting an appropriate number of claims; and (d) places the application in better form for appeal, should the appeal be necessary. This Amendment is necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of this Amendment is thus respectfully requested.

I. The Claims Define Patentable Subject Matter

1. The Office Action rejects Claims 1-17 and 23-43 under 35 U.S.C. §103(a) over U.S. Patent No. 5,592,530 to Brockman et al. ("Brockman") in view of U.S. Patent No. 5,905,985 to Malloy et al. ("Malloy"). The rejection is respectfully traversed.

Applicant agrees with the Final Office Action that there is no mention in Brockman of at least the feature of performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users, and provides (network traffic load) reports thereof, as recited in independent Claims 1, 23, 29, 32, 38, and 43. However, the Final Office Action asserts that it would have been obvious to modify the telephone switch dual monitors in Brockman with the relational database modification apparatus of Malloy to meet the claimed invention. Applicant respectfully disagrees with this assertion.

2. It is inherently stated in Brockman that an SS7 network typically comprises three types of node elements: an SSP (e.g. a central office, tandem switch, or an end-office switch), an SCP, or an STP (See: col. 1, lines 33-45). Considering the information above,

Applicant respectfully submits that Brockman's sole focus is the health of an SS7 data network (See: Abstract; col. 1, lines 62-65) by deploying monitoring equipment **at STPs** (col. 9, lines 15-16) in order to determine error conditions at the application layer of the network (col. 3, lines 25-31); whereas, the concern of the present invention is the health of a voice-network (i.e. call-carrying signaling in the voice-carrying network) by monitoring **an SSP** (e.g. a central office, tandem switch, or an end-office switch) in order to look at the network load, routing, and possible congestion from **multiple switched calls**.

In order to determine the health of an SS7 data network, Brockman refers to messaging (data signaling) between two switching entities (i.e. a mated pair of switching nodes). The switching nodes that Brockman speaks of is a mated pair of STPs (See: col. 1, lines 42-45, col. 2, lines 1-3, col. 9, lines 15-16). Thus, Brockman is only concerned with the proper operation of STPs in order to ensure the health of an SS7 network (See: col. 1, lines 62-64; col. 3, lines 20-34). Brockman identifies an SSP (e.g. a central office switch, tandem switch, or end office switch) at col. 1, lines 33-37, and states that "a key advantage of the present invention is to deploy the monitoring equipment at the STPs, *rather than* at the SSPs" (See: col. 9, lines 15-50).

By contrast, amended independent Claims 1, 23, 29, 32, 38 and 43 teach that the signaling is monitored for **multiple switched calls**. Essentially, the present invention *uses* the SS7 (e.g. an SSP, tandem switch, or end-office switch) *to monitor normal operation* for load-balancing or routing of calls through the network (See: Applicant's specification at page 11, lines 16-22; page 25, line 6 – page 26, line 28; page 40, line 18 – page 41, line 14). For example, the present invention monitors messages between end-offices or between an end-office and a tandem switch – **not at the STPs** ***to determine error conditions***, as taught by Brockman. Therefore, it is apparent that Brockman actually *teaches away* from the claimed invention because Brockman is only focused on the proper operation of STPs in order to *monitor* SS7 data *to look for error conditions* in the SS7 network (rather than signaling for multiple switched calls, as taught by the claimed invention).

3. The Final Office Action also alleges that Brockman teaches multiple transactions for multiple called numbers. By this After Final Amendment, the Applicant has amended "multiple transactions" to read more clearly as **multiple switched calls**.

It is respectfully submitted that Brockman does not monitor network loads or routing (i.e. multiple switched calls) as they impact the switched network. Brockman arguably teaches the routing of signaling among STPs and mentions that some of the data available is signaling messages from the tandem switch that the voice-call is going though. However, at most, Brockman *does not even teach or suggest how* ***multiple switched calls*** *are routed through a network, nor does Brockman teach or suggest how the available signaling messages may be used*. In fact, Brockman appears to only look at STP signaling in order to observe routing through the network and *neglects to perform any load analysis on switching machines, such as the SSP, tandem switch, or end-office switch*. Even further, Brockman *does not mention any kind of analysis based on the switching machine that a call goes through, as recited by the present invention*.

4. As admitted by the Final Office Action, there is no mention in Brockman of at least the feature of performing an on line analysis program to obtain a multidimensional database, the on line analysis program supporting interactive analysis for one or more users, and provides (network traffic load) reports thereof. To make up for the deficiencies in Brockman, the Final Office Action indicates that Malloy teaches the steps of performing an on line analysis program and generating an on line network traffic load report (page 3, line 13 – 17). Applicant respectfully disagrees.

Although Malloy arguably appears to teach an on-line analytical management system (OLAP), Malloy does not teach or suggest using an OLAP with a telephone switch. Even further, Malloy does not even suggest the claimed the relation to traffic loads for multiple switched calls based upon collected messages. Incorporating a relational database management system based on the teachings of Malloy would not provide Brockman with the capability of monitoring and analyzing traffic patterns of multiple switched calls as claimed by the Applicant's system.

Even further, Brockman, at most, appears to refer to comparing calls in order to detect a situation when a calling card number is fraudulently used (col. 3, lines 35-50; col. 16, line

62 – col. 17, line 15). This analysis of calls does not require nor suggest the use of a relational database. In fact, even though Brockman *does not teach* how to implement the suggestion of fraud detection, those ordinarily skilled in the art would realize that a database, such as a sophisticated relational database working in real time, would not be required in a fraud detection implementation. Brockman would only suggest a printout of calls by time and location, which would be related to the utilization of the same calling card number in a fraud situation. Thus, **there is no need for a database in Brockman**, let alone a relational database as recited by the present invention.

Therefore, in light of the facts presented above, it is respectfully submitted that Brockman does not teach or disclose the claimed signaling that relates to traffic loads for multiple switched calls based upon collected messages. Even further, Brockman and Malloy, taken singularly or in combination, does not suggest the claimed signaling that relates to traffic loads for multiple switched calls based upon collected messages.

At best, the suggested combination of Brockman and Malloy would result in the proper operation of STPs in order to analyze an SS7 network for a particular transaction by an OLAP. It is respectfully submitted that this is not the claimed invention that teaches a method for analyzing signaling relating to traffic loads for multiple switched calls based upon collected messages. Thus, there is nothing in either Brockman or Malloy which would suggest that it would be advantageous to combine the references in order to achieve the claimed invention as suggested by the Final Office Action.

5. It is well established that even if all elements of a claim are disclosed in the prior art, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the prior art to arrive at the claimed invention.[1] There is no motivation for one of ordinary skill in the art to modify Brockman with Malloy in order to achieve the claimed method or apparatus comprising at least signaling for multiple switched calls as recited in independent Claims 1, 23, 29, 32, 38 and 43. This modification would only be obvious when viewed in light of the disclosure of the Applicant's patent application. The suggestion to combine the teachings of the prior art should come from the prior art, rather

than from the applicant.[2] "Monday morning quarterbacking is quite improper when resolving the question of obviousness."[3] The combination of the teachings of the prior art suggested by the Examiner is improper, absent a showing in the prior art that they can or should be combined. To do so would be an impermissible use of hindsight reconstruction from Applicant's disclosure.[4] Because the prior art does not teach or suggest the desirability of the combination as suggested by the Examiner, the Final Office Action does not establish a *prima facie* case of obviousness.

For at least this reason, Claims 1, 23, 29, 32, 38 and 43 are allowable over the applied art, taken singly or in combination. Claims 2-17, which depend from Claim 1, Claims 24-28, which depends from Claim 23, Claims 30-31, which depends from Claim 29, Claims 33-37, which depends from Claim 32, and Claims 39-42, which depends from Claim 38 are likewise allowable over the applied art, taken singly or in combination. Withdrawal of the rejection is respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is earnestly solicited.

Should Examiner Nguyen believe anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

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[1] *In Re Regal*, 188 U.S.P.Q. 136,139 n.6 (C.C.P.A. 1975).
[2] *Orthopedic Equipment Co., Inc. v. United States*, 217 U.S.P.Q. 193,199 (C.A.F.C. 1983).
[3] *Id.*
[4] *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999).

It is believed that any additional fees due with respect to this paper have already been identified. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 18-0013 in the name of Rader, Fishman and Grauer PLLC.

Respectfully submitted,

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Date

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MARKED UP VERSION OF AMENDED CLAIMS

1. (Thrice amended) In a switched telecommunications network having end office switching systems controlled by a common channel signaling system connected to the end office switching systems and to paired signal transfer points, the method comprising:

monitoring the signaling between the end office switching systems and the signal transfer points and selecting the signaling relating to [transactions] multiple switched calls and creating a plurality of flat files;

collating the flat files by transaction;

processing the collated flat files to create relational files relating to multiple [transactions] switched calls for multiple called numbers;

performing an on line analysis program to obtain a multidimensional database from the multiple [transactions] switched calls to multiple called numbers of said relational files, said on line analysis program supporting interactive analysis for one or more users; and

generating an on line network traffic load report from the multidimensional database based at least in part on said interactive analysis.

2. (Twice amended) A method according to claim 1 wherein said [transactions] multiple switched calls comprise completed dialed telecommunication sessions between a calling terminal and a called terminal.

3. (Twice amended) A method according to claim 2 wherein said [transactions] multiple switched calls also comprise incompleted dialed attempts to establish telecommunication sessions between a calling terminal and a called terminal.

7. (Twice amended) A method according to claim 2 wherein said [transactions] multiple switched calls comprise completed dialed telecommunication sessions between a calling terminal and a called terminal, and including the steps of providing a report of calls dialed to a designated terminal in a designated time period and data regarding the lengths thereof.

8. (Twice amended) A method according to claim 7 wherein said [transactions] multiple switched calls also comprise incompleted attempts to establish dialed telecommunication sessions between a calling terminal and a called terminal, and including the steps of providing a report of the incompleted calls dialed to said designated terminal in said designated time period.

23. (Thrice amended) In a switched telecommunications network having end office switching systems controlled by an SS7 common channel signaling system using packet switching via A, B, C, and D links connected to paired signal transfer points connected to one another by D links and connected by A links to the end office switching systems, the method comprising:

monitoring the signaling in said A links and selecting the A link signaling relating to call set up;

collating said selected signaling by call;

processing said collated signaling to create relational files relating to multiple switched calls [transactions] for multiple called numbers;

performing an on line analysis program to obtain a multidimensional database from the multiple switched calls [transactions] to multiple called numbers of said relational files, said on line analysis program supporting interactive analysis for one or more users; and

generating an on line network traffic load report from the multidimensional database that summarizes ongoing call attempts and completions based at least in part on said interactive analysis.

29. (Thrice amended) In a switched telecommunications network having trunked end office and tandem switching systems controlled by an SS7 common channel signaling system using packet switching via A, B, C, and D links connected to paired signal transfer points connected to one another by C links and connected by A links to end office and tandem switching systems, the method comprising:

monitoring the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems through a tandem switching system;

collating said selected signaling by call based at least in part on A link signaling to and from said tandem switching system;

processing said collated signaling to create relational files relating to multiple calls;

performing an on line analysis program to obtain a multidimensional database from [the] multiple switched calls [transactions] of said relational files, said on line analysis program supporting interactive analysis for one or more users; and

generating an on line network traffic load report from the multidimensional database based at least in part on said interactive analysis that summarizes successful and unsuccessful attempts to route calls to multiple called numbers through said tandem switching system.

32. (Thrice amended) A switched telecommunications network having a trunked end office and tandem switching systems controlled by an SS7 common channel signaling system using packet switching via A, B, C and D links connected to paired signal transfer points connected to one another by C links and connected by A links to the end office and tandem switching systems, comprising:

monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems through a tandem switching system;

processing means collating said selected signaling by call based at least in part on A link signaling to and from said tandem switching system;

processing means processing said collated signaling to create relational files relating to multiple calls to multiple switched called numbers;

on line analytical processing means providing a multidimensional database and supporting interactive analysis for one or more users, wherein said relational files are processed to consolidate and summarize successful and unsuccessful attempts to route calls to multiple called numbers through said tandem switching system and provide traffic load reports thereof.

38. (Once amended) In a switched telecommunications network having end office switching systems controlled by a common channel signaling system connected to the end office switching systems and to paired signal transfer points, and including automatic message accounting equipment recording call details of a connection transaction, the method comprising:

monitoring the common channel signaling between the end office switching systems and the signal transfer points and selecting the signaling relating to multiple switched calls[connection transactions];

collating the selected common channel signaling by a call of the multiple switched calls[transaction];

collating automatic message accounting equipment output recording call detail; and

processing the collated common channel signaling and automatic message accounting output to provide a multidimensional database to consolidate and summarize ongoing multiple switched calls[transactions] and provide reports thereof.

43. (Thrice amended) A switched telecommunications network having trunked end office and tandem switching systems controlled by an SS7 common channel signaling system using packet switching via A, B, C, and D links connected to paired signal transfer points connected to one another by C links and connected by A links to the end office and tandem switching systems, said network including:

monitors interfacing to the signaling in said A links and selecting the A link signaling relating to call set up between end office switching systems;

processing means collating said selected signaling by call based at least in part on A link signaling to and from said end office switching systems;

processing means processing said collated signaling to create relational files relating to multiple switched calls to multiple called numbers;

automatic message accounting equipment recording call details of call set up and tear down;

on line analytical processing means supporting interactive analysis for one or more users and providing a multidimensional database, including information relating to said call set up and tear down obtained from said relational files; and

a program for processing said multidimensional database to consolidate and summarize successful and unsuccessful attempts to route calls to multiple called numbers through said tandem switching system and to provide traffic load reports thereof based at least in part on said interactive analysis.